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#12	Search **Jin L 1995 HCV** Limits: **Publication Date to 1999/07/09**	08:58:06	2
#9	Search **zhang Z HCV 1997** Limits: **Publication Date to 1999/07/09**	08:55:26	5
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S2      13461   CORE()PROTEIN
S3       3373   NS3
S4       1001   NS4
S5        900   NS5A
S6     596253   MOSAIC? ? OR FUSION OR FUSED OR CHIMER?
S7      38189   ANTIGEN? (3N) EPITOPE? ?
S8       3873   S1 AND (S2-S4)
S9         29   S8 AND S6 AND S7
S10        22   RD S9 (unique items)
?t 10/7/all

 10/7/1     (Item 1 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

11284096   21228940   PMID: 11330186
 Gene  chimeric   fusion and expression of nucleocapsid  NS3 regions and
 NS4 regions of  hepatitis  C virus genome]
  Shen XC; Li M; Wu XF
  Shanghai  Institute of Biochemistry, Chinese Academy of Science, Shanghai
200031, China.
 Sheng  wu  gong  cheng xue bao (China)   Jan 2001,  17  (1)  p46-9,  ISSN
1000-3061   Journal Code: DJD
  Languages: CHINESE
  Document type: Journal Article ; English Abstract
  Record type: Completed
  Genes  encoding  HCV   core  and  NS4    antigen   epitopes  and C33c
 antigen   were  cloned  from HCV  genome by PCR, respectively. Two fused
genes  were constructed. One contained these three genes, another contained
genes  encoding C33c antigen  and NS4   antigen   epitopes . These fused
genes  were  cloned into expression plasmid pET-24(a)+ and pET-22(b)+ under
T7  promoter and transformed into E. coli BL21 (DE3) respectively. SDS-PAGE
analysis revealed that these fused  antigens CCN, CN were highly expressed
after  the  induction  by  1  mmol/L  IPTG.  These Expression products were
detected by western blotting with anti HCV  serum.
  Record Date Created: 20010501


 10/7/2     (Item 2 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

10449415   20062922   PMID: 10596013
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Hepatitis C epitopes from phage-displayed cDNA libraries and improved diagnosis with a chimeric antigen.

Pereboeva LA; Pereboev AV; Wang LF; Morris GE

MRIC Biochemistry Group, N. E. Wales Institute, Wrexham, England.

Journal of medical virology (UNITED STATES) Feb 2000, 60 (2) p144-51, ISSN 0146-6615 Journal Code: I9N

Languages: ENGLISH

Document type: Journal Article

Record type: Completed

A novel method for cloning DNase I fragments into bacteriophage display vector fUSE2 was used to create libraries expressing hepatitis C virus (HCV) protein fragments on the phage surface. Selection by panning with a mixture of sera from five HCV -seropositive individuals enabled identification of antigenic determinants in NS3 (amino acids 1,383-1,415), NS4 (amino acids 1, 930-1,938), and NS5 (amino acids 2,088-2,104). The NS3 result is the most accurate location to date of a major conformational determinant that cannot be mimicked by short peptides. Any expressed sequence from the phage library can be excised with Bgl II and cloned directly into the Bgl II site of an appropriate plasmid for bacterial expression. This enables production of chimeric proteins containing multiple antigenic determinants, illustrated by co-expression of the NS4P (amino acids 1,930-1,938) epitope with an NS4N fragment (amino acids 1,644-1,812) containing at least three linear HCV epitopes. When used to screen 35 individual HCV -positive sera by enzyme-linked immunosorbent assay (ELISA), the chimeric antigen detected eight more positives than NS4N alone and gave increased immunoreactivity with others. This approach of identifying antigenic regions by phage display and then co-expressing them as chimeric proteins may be generally applicable to the production of improved diagnostic antigens and recombinant vaccines.

Record Date Created: 20000124

10/7/3 (Item 3 from file: 155)

DIALOG(R)File 155:MEDLINE(R)

09539390 97368162 PMID: 9224929

Identification of HCV core mimotopes: improved methods for the selection and use of disease-related phage-displayed peptides.

Tafi R; Bandi R; Prezzi C; Mondelli MU; Cortese R; Monaci P; Nicosia A

Istituto di Ricerche di Biologia Molecolare P.Angeletti, Pomezia, Roma, Italy.

Biological chemistry (GERMANY) Jun 1997, 378 (6) p495-502, ISSN 1431-6730 Journal Code: CK4

Languages: ENGLISH

Document type: Journal Article

Record type: Completed

Disease-specific epitope discovery from random peptide libraries displayed on phage using sera from patients involves a number of screening steps with many immune and non-immune sera. To rapidly identify mimotopes of the human hepatitis C virus (HCV) core protein , we have used an anti-core human monoclonal antibody (mAb; B12.F8) as a probe in screening phage that were affinity-selected using a serum from an HCV infected patient. Three different positive phage were isolated displaying low or no homology with the natural antigen, but which still efficiently bound to the antigen binding site of the B12.F8 antibody. Testing the reactivity of these phage with forty-five sera from HCV infected patients

showed that antibodies recognizing them are present in more than 80% of this population. These antibodies showed distinct fine specificity, as they bound the selected phage in a mutually exclusive fashion. Co-expression of two mimotopes in the same cells led to chimeric particles which were recognized by antibodies of different specificity. These data provide novel information on the potential use of the phage display technology for the characterization of antibody specificity as well as disease diagnosis and prevention.
Record Date Created: 19970829

10/7/4 (Item 4 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09313934 97220480 PMID: 9067642
Improved reactivity of hepatitis C virus core protein epitopes in a conformational antigen-presenting system.
Buratti E; Di Michele M; Song P; Monti-Bragadin C; Scodeller EA; Baralle FE; Tisminetzky SG
International Centre for Genetic Engineering and Biotechnology, University of Trieste, Italy.
Clinical and diagnostic laboratory immunology (UNITED STATES) Mar 1997, 4 (2) p117-21, ISSN 1071-412X Journal Code: CB7
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Recent studies have identified several epitopes in the N-terminal portion of the nucleocapsid protein which are predominantly recognized by sera of patients infected with hepatitis C virus (HCV). The characterization of the sequences recognized by theses antibodies and the evaluation of their reactivities have been performed mainly with synthetic peptides. However, synthetic peptides are notoriously unreliable as antigens when the immune response is directed against conformational epitopes. In order to improve the detection of antibody responses in HCV -infected patients, we have evaluated the reactivities of three immunodominant regions of the HCV core protein (residues 1 to 20, 21 to 40, and 32 to 46) displayed in a conformation-specific manner on the surface of the Flock House virus (FHV) capsid protein. The results obtained with these proteins in the analysis of 94 serum samples positive by anti-HCV enzyme-linked immunosorbent assay where then compared with those obtained with the corresponding synthetic peptides. The sequence most reactive both with the peptide and with the FHV protein was the region from residues 1 to 20, confirming the low conformational requirements for the display of these residues. On the other hand, the already reported conformational nature of residues 32 to 46 is in keeping with its observed high reactivity when displayed by the FHV recombinant protein and with the low reactivity displayed by its corresponding synthetic peptide. Finally, the high reactivity observed for the chimeric protein displaying the region from residues 21 to 40, as opposed to the results obtained with the synthetic peptide, also suggests that this sequence contains one or more conformational epitopes whose structures cannot be mimicked correctly with synthetic peptides.
Record Date Created: 19970603

10/7/5 (Item 5 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

09136572 97070566 PMID: 8913492
An epitope chimeric antigen for the hepatitis C virus serological screening test.
Yagi S; Kashiwakuma T; Yamaguchi K; Chiba Y; Ohtsuka E; Hasegawa A
Diagnostics Division, Tonen Corporation, Saitama, Japan.
Biological & pharmaceutical bulletin (JAPAN) Oct 1996, 19 (10) p1254-60, ISSN 0918-6158 Journal Code: BPZ
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
The epitope chimeric antigen , CepCM, composed of the 9 selected major epitope regions (two in NS3 , two each in the NS4 of two genotypes, two each in the core of two genotype, and one in the core in hepatitis C virus (HCV) polypeptide), was expressed as a fusion protein of the trpE peptide in E. coli. An ELISA test using this antigen produced the same judgements with most of the panel sera as a second generation HCV screening kit. Though discrepancies were found in twelve samples (5% of the samples), further analysis revealed that eleven samples were indeterminate sera as judged by an immunoblot test. The reactivity found in several seroconversion series sera suggested that CepCM has superior reactivity to HCV infected sera than some second generation kits. These data indicated that an epitope chimeric antigen with a man-made sequence will be a excellent tool for a diagnostic test kit.
Record Date Created: 19970306

10/7/6 (Item 6 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

08909578 96099435 PMID: 8523531
Use of recombinant protein to identify a motif-negative human cytotoxic T-cell epitope presented by HLA-A2 in the hepatitis C virus NS3 region.
Kurokohchi K; Akatsuka T; Pendleton CD; Takamizawa A; Nishioka M; Battegay M; Feinstone SM; Berzofsky JA
Molecular Immunogenetics and Vaccine Research Section, National Cancer Institute, National Institutes of Health, Bethesda, Maryland 20892, USA.
Journal of virology (UNITED STATES) Jan 1996, 70 (1) p232-40, ISSN 0022-538X Journal Code: KCV
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
To define cytotoxic T-cell (CTL) epitopes, the common approach involving the use of a series of overlapping synthetic peptides covering the whole protein sequence is impractical for large proteins. Motifs identify only a fraction of epitopes. To identify human CTL epitopes in the NS3 region of hepatitis C virus (HCV), we modified an approach using recombinant protein and the ability of short peptides to bind to class I major histocompatibility complex (MHC) molecules. Peripheral blood mononuclear cells from an HCV -infected patient were stimulated with a proteolytic digest of the recombinant NS3 protein to expand CTL to any active peptides in the digest. The digest was fractionated by reverse-phase high-performance liquid chromatography, and fractions were assessed for the ability to sensitize targets for lysis by CTL. The most active fraction was sequenced, identifying a 15-residue peptide (NS3 -1J; TITTGAPVTYSTYGK). This sequence was confirmed to be the source of the activity by synthesis of the corresponding peptide. CTL lines specific for NS3 -1J were

established from two HCV -infected patients (both HLA-A2 and -B7 positive) by stimulation with the synthetic peptide in vitro. The CTL were HLA-A2 restricted, and the minimal epitope was mapped to a decapeptide NS3 -1J (10.4). As this minimal epitope lacks the common HLA-A2-binding motif, this technique is useful for mapping CTL epitopes independent of known motifs and without the requirement for enormous numbers of overlapping peptides. Because this peptide is presented by the most common HLA class I molecule, present in almost half the population, it might be a useful component of a vaccine against HCV .
Record Date Created: 19960125

10/7/7 (Item 7 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

08805342 96116857 PMID: 8537460
Epitope mapping of the NS4 and NS5 gene products of hepatitis C virus and the use of a chimeric NS4 -NS5 synthetic peptide for serodiagnosis.
Rosa C; Osborne S; Garetto F; Griva S; Rivella A; Calabresi G; Guaschino R; Bonelli F
Sorin Biomedica, R&D Diagnostic Division, Saluggia (VC), Italy.
Journal of virological methods (NETHERLANDS) Oct 1995, 55 (2) p219-32, ISSN 0166-0934 Journal Code: HQR
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Specific domains of the NS4 and NS5 gene products of hepatitis C virus have been identified using hydrophilicity profiles for the prediction of potential immunogenic regions, and epitope scanning techniques. Peptides synthesised on the basis of such data show excellent reactivity in the ELISA format. Introduction of a glycine-glycine spacer between two peptides (NS4 -12 and NS5-44) to give a single chimeric peptides does not appear to impair immunoreactivity. An ELISA based on the chimeric peptide and a Core- NS3 recombinant protein correctly diagnoses a cohort of haemodialysed patients, three commercial HCV panels and the sera of a negative control population.
Record Date Created: 19960205

10/7/8 (Item 8 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

08737137 95294552 PMID: 7539833
Localization and reactivity of an immunodominant domain in the NS3 region of hepatitis C virus.
Claeys H; Volckaerts A; Mertens W; Liang Z; Fiten P; Opdenakker G
Belgian Red Cross Blood Transfusion Center, Leuven, Belgium.
Journal of medical virology (UNITED STATES) Mar 1995, 45 (3) p273-81, ISSN 0146-6615 Journal Code: I9N
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Analysis of the amino acid sequences of the nonstructural region 3 (NS3) of the hepatitis C virus type 1 revealed four points with a high average hydrophilicity (Ah). Two of these potential antigenic sites were expressed in E. coli as short fragments. The first fragment of 91 residues

(NS3f3: residues 1359-1449) harbors the hexapeptide K-K-K-C-D-E with an Ah of 2.33; the second fragment is 73 residues long (NS3f4: residues 1460-1532) and encompasses the heptapeptide R-S-N-R-R-G-R with an Ah of 1.79. Both fragments were expressed with truncated hepatitis B core (tHBc) as a carrier protein. The fusion proteins were purified from the bacterial lysates by affinity chromatography on immobilized monoclonal antibodies against HBc, and evaluated as antigens in an enzyme immunoassay for the detection of HCV antibodies. In a specificity control panel, reactivity with NS3f3 was only found in proven HCV carriers, while reactivity with NS3f4 was weak in HCV carriers but accounted for some of the nonspecific serological reactions. In a group of 48 genotyped HCV -infected volunteer blood donors, antibodies against NS3f3 were detected in 90% (27/30) of HCV -type 1 infections and in all HCV -type 4 infections (5/5).(ABSTRACT TRUNCATED AT 250 WORDS)
Record Date Created: 19950712

10/7/9 (Item 9 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

08421217 95065691 PMID: 7526540
Characterization of antigenic determinants in the core antigen of the hepatitis C virus.
Goeser T; Muller HM; Ye J; Pfaff E; Theilmann L
Department of Medicine, University of Heidelberg, FRG.
Virology (UNITED STATES) Dec 1994, 205 (2) p462-9, ISSN 0042-6822 Journal Code: XEA
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Antibodies to the hepatitis C virus (HCV) core protein are present in the majority of patients with chronic HCV infection. To characterize the corresponding determinants, synthetic peptides and various deletion clones of the core gene expressed in Escherichia coli were used to test human anti-core positive sera or rabbit anti-peptide antibodies in enzyme-linked immunosorbent assays, immunoblots, and competition assays. Two distinct linear antigenic determinants which are located within aa 1 to 20 and between aa 30 and 47 were found. Further studies using reactive serum after preabsorption of antibodies with N- and C-terminal-deleted HCV core proteins or with peptides directed to the linear epitopes revealed an additional determinant that requires for presentation the participation of the N-terminal 69 amino acids. It is postulated that the HCV core protein forms a three-dimensional structure exposing two linear epitopes and, in addition, presents a conformational determinant within the N-terminal 69 amino acids. The remaining core amino acid sequence spanning from position 69 to 191 does not seem to expose further determinants to induce additional anti-core antibodies.
Record Date Created: 19941212

10/7/10 (Item 10 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

08408878 94259442 PMID: 7515376
Isolation and epitope characterization of human monoclonal antibodies to hepatitis C virus core antigen.
Siemoneit K; da Silva Cardoso M; Wolpl A; Koerner K; Subanek B

German Red Cross Blood Bank Ulm.
Hybridoma (UNITED STATES) Feb 1994, 13 (1) p9-13, ISSN 0272-457X Journal Code: GFS
Languages: ENGLISH
Document type: Journal Article
Record type: Completed

In this study we describe the establishment of two hybridoma cell lines secreting human monoclonal antibodies to the 22-kD nucleocapsid protein (core, p22) of the hepatitis C virus (HCV). For this purpose we isolated B lymphocytes from an anti-HCV positive blood donor and infected them with Epstein-Barr (EBV). We obtained several lymphoblastoid cell clones secreting antibodies to the recombinant HCV core protein . The B-cell cultures were oligoclonally expanded and two of them were fused with the (mouse:human) heteromyeloma cell line K6H6/B5. The resulting stable hybridomas produce antibodies of the IgG1/kappa (U1/F10) and the IgM/kappa (U1/F11) isotype reacting specifically with the recombinant core protein p22. To identify the epitopes recognized by these antibodies we synthesized overlapping peptides (13-mer and 6-mer) from the amino terminus of the core amino acid sequence. Antibody reactivity to these peptides was analyzed in an immunoblot assay. Finally, we were able to define a linear epitope recognized by the U1/F10 antibody on the nucleocapsid protein. The antibody shows specificity to the sequence N-VYLLPR-C, which corresponds to the amino acids 34-39 of the core sequence.

Record Date Created: 19940705

10/7/11 (Item 11 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

08042051 93354143 PMID: 7688847
A sensitive serodiagnosis of hepatitis C virus (HCV) infection with two non- fused peptides: comparison of antibody responses detected with a newly developed assay and a commercial second-generation test.

Sato A; Ida N; Ishikawa M; Tanahashi K; Nakamura H; Sho Y; Arima T; Kunitomo T
Medical Devices Laboratory, Toray Industries, Inc., Shiga, Japan.

Microbiology and immunology (JAPAN) 1993, 37 (4) p295-304, ISSN 0385-5600 Journal Code: MX7
Languages: ENGLISH
Document type: Journal Article
Record type: Completed

An enzyme-linked immunosorbent assay (ELISA) was developed for the detection of anti-HCV antibody. We assayed for antibodies against either oligopeptide (S29-1) deduced from the nucleocapsid gene or the product of nonstructural region (NS3) synthesized in a recombinant Escherichia coli (S4). To reduce false-positive results induced by non-specific binding of antibodies with a carrier protein and to increase the sensitivity of an immunoassay, non- fused S4 peptide was prepared by the recombinant DNA technique and site-specific proteolysis (by factor Xa). In 71 non-A, non-B hepatitis patients with chronic liver disease, 70 (98.5%) were positive by S29-1/S4 ELISA as well as by a second-generation test (Abbott II). On the other hand, of 40 serum samples from blood donors, in which anti-N14 (core) and C100-3 antibodies were not detected but hepatitis C virus (HCV) RNA was detectable by polymerase chain reaction (PCR), 24 (60%) were positive by S29-1/S4 ELISA, whereas only 18 (45%) were diagnosed by Abbott II. In addition, based on results in a small group of 92 blood donors, detection of anti-S29-1/S4 antibody correlated well with HCV viremia as

confirmed by PCR. These results indicated that the preparation of nonfused protein (S4) by recombinant DNA technique and a combination of S29-1 and S4 as immobilized antigens in an ELISA provide a sensitive and specific diagnosis for HCV infection with good correlation with the presence of viral RNA as confirmed by PCR.
Record Date Created: 19930910

10/7/12 (Item 12 from file: 155)
DIALOG(R)File 155:MEDLINE(R)

07143942 93383489 PMID: 8396822
Production and characterization of a human monoclonal antibody to the hepatitis C virus NS4 region.
Mondelli MU; Cerino A; Bellotti V; de Lalla C; Rosa C; Bonelli F; Habets W
Istituto di Clinica delle Malattie Infettive, University of Pavia, Italy.
Year in immunology (SWITZERLAND) 1993, 7 p220-6, ISSN 0256-2308
Journal Code: YII
Languages: ENGLISH
Document type: Journal Article
Record type: Completed
Record Date Created: 19931014

10/7/13 (Item 1 from file: 5)
DIALOG(R)File 5:Biosis Previews(R)

12072421 BIOSIS NO.: 199900367270
Expression of a HCV multi- epitopes antigen gene and study on its immunogenicity.
AUTHOR: Huang Jiansheng(a); Xie Yongmei(a); Lin Yuankai(a); Ke Shen(a); Ren Daming(a)
AUTHOR ADDRESS: (a)State key laboratory, Institute of Genetics, Fudan University, Shanghai, 200433**China
JOURNAL: Weishengwu Xuebao 39 (3):p268-271 1999
ISSN: 0001-6209
DOCUMENT TYPE: Article
RECORD TYPE: Abstract
LANGUAGE: Chinese; Non-English
SUMMARY LANGUAGE: Chinese; English

ABSTRACT: Due to the hypervariable character of hepatitis C virus (HCV), 5 conserved T and/or B cell epitopes from core, envelope, NS3 and NS5 protein of HCV were chosen to form a 270bp multi-epitopes antigen gene. The gene was clone into a fusion vector pWR450-1 to express a beta-galactosidase-HCV hybrid protein GZ-PCX. The purified GZ-PCX protein was specifically recognized by human anti-HCV antibodies. These results show that the HCV hybrid multi-epitopes antigen has excellent immunogenicity, which might be able to be used as an effective diagnosis agent and to provide protectivity to any genotype of HCV which might partly solve the problems in the researches of HCV vaccines.

10/7/14 (Item 1 from file: 73)

DIALOG(R)File 73:EMBASE

11287894 EMBASE No: 2001302068
Development and characterisation of recombinant hepatitis delta virus-like particles
Ward S.M.; Macnaughton T.B.; Gowans E.J.
E.J. Gowans, Clinical Medical Virology Centre, University of Queensland, St. Lucia, QLD 4067 Australia
AUTHOR EMAIL: e.gowans@mailbox.uq.edu.au
Virus Genes (VIRUS GENES) (Netherlands) 2001, 23/1 (97-104)
CODEN: VIGEE ISSN: 0920-8569
DOCUMENT TYPE: Journal ; Article
LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 40

Injection of particulate hepatitis B virus surface antigen (HBsAg) in mice leads to the induction of a HBsAg-specific class-I-restricted cytotoxic T lymphocyte (CTL) response. It is proposed that any protein internal to HBsAg will also be able to elicit a specific CTL response. In this study, several carboxy-terminal truncations of hepatitis C virus (HCV) core protein were fused to varying lengths of amino-terminal truncated large hepatitis delta antigen (L-HDAg). These constructs were analysed for their ability to be expressed and the particles secreted in the presence of HBsAg after transfection into HuH-7 cells. The secretion efficiency of the various HCV core-HDAg chimeric proteins was generally poor. Constructs containing full length HDAg appeared to be more stable than truncated versions and the length of the inserted protein was restricted to around 40 amino acids. Thus, the use of L-HDAg as a chimera to package foreign proteins is limited. Consequently, a polyepitope (polytope) containing a B-cell epitope from human papillomavirus (HPV 16) and multiple T-cell epitopes from the HCV polyprotein was used to create the construct, L-HDAg-polyB. This chimeric protein was shown to be reliant on the co-expression of HBsAg for secretion into the cell culture fluid and was secreted more efficiently than the previous HCV core-HDAg constructs. These L-HDAg-polyB virus-like particles (VLPs) had a buoyant density of (similar) 1.2 g/cmSUP3 in caesium chloride and (similar) 1.15 g/cmSUP3 in sucrose. The VLPs were also immunoprecipitated using an anti-HBs but not an anti-HD antibody. Thus, these recombinant VLPs have similar biophysical properties to L-HDAg VLPs.

10/7/15 (Item 2 from file: 73)
DIALOG(R)File 73:EMBASE

07674156 EMBASE No: 1999142792
Use of a novel hepatitis C virus (HCV) major-epitope chimeric polypeptide for diagnosis of HCV infection
Chien D.Y.; Arcangel P.; Medina-Selby A.; Coit D.; Baumeister M.; Nguyen S.; George-Nascimento C.; Gyenes A.; Kuo G.; Valenzuela P.
D.Y. Chien, Chiron Corporation, Life Science Center, 4560 Horton St., Emeryville, CA 94507 United States
Journal of Clinical Microbiology (J. CLIN. MICROBIOL.) (United States) 1999, 37/5 (1393-1397)
CODEN: JCMID ISSN: 0095-1137
DOCUMENT TYPE: Journal; Article

LANGUAGE: ENGLISH SUMMARY LANGUAGE: ENGLISH
NUMBER OF REFERENCES: 17

The genome of hepatitis C virus (HCV) consists of seven functional regions: the core, E1, E2/NS1, NS2, NS3 , NS4 , and NS5 regions. The U.S. Food and Drug Administration-licensed 2.0G immunoassay for the detection of anti- HCV uses proteins from the core, NS3 , and NS4 regions (McHutchinson et al., Hepatology 15:19-25, 1992). The 3.0G enzyme-linked immunosorbent assay includes the protein from the NS5 region (Uyttendaele et al., Vox Sang. 66:122-129, 1994). The necessity of detecting antibodies to viral envelope proteins (E1 and E2) and to different genotype samples has been demonstrated previously (Chien et al., Lancet 342:933, 1993; Lok et al., Hepatology 18:497-502, 1993). In this study we have attempted to improve the sensitivity of the anti-HCV assay by developing a single multiple-epitope fusion antigen (MEFA; MEFA-6) which incorporates all of the major immunodominant epitopes from the seven functional regions of the HCV genome. A nucleic acid sequence consisting of proteins from the viral core, E1, E2, NS3 , NS4 , and NS5 regions and different subtype-specific regions of the NS4 region was constructed, cloned, and expressed in yeast. The epitopes present on this antigen can be detected by epitope-specific monoclonal and polyclonal antibodies. In a competition assay, the MEFA-6 protein competed with 83 to 96% of genotype-specific antibodies from HCV genotype-specific peptides. This recombinant antigen was subsequently used to design an anti-HCV chemiluminescent immunoassay. We designed our assay using a monoclonal anti-human immunoglobulin G antibody bound to the solid phase. Because MEFA-6 is fused with human superoxide dismutase (h-SOD), we used an anti-human superoxide dismutase, dimethyl acridinium ester-labeled monoclonal antibody for detection. Our results indicate that MEFA-6 exposes all of the major immunogenic epitopes. Its excellent sensitivity and specificity for the detection of clinical seroconversion are demonstrated by this assay.

10/7/16 (Item 1 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

134114828 CA: 134(9)114828s PATENT
Antigenic epitopes and mosaic polypeptides of hepatitis C virus proteins
INVENTOR(AUTHOR): Fields, Howard A.; Khudyakov, Yury E.
LOCATION: USA
ASSIGNEE: United States Dept. of Health and Human Services
PATENT: PCT International ; WO 200104149 A1 DATE: 20010118
APPLICATION: WO 2000US18704 (20000707) *WO 99US15578 (19990709)
PAGES: 51 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C07K-014/18A; A61K-039/29B DESIGNATED COUNTRIES: AU; CA; JP DESIGNATED REGIONAL: AT; BE ; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE
SECTION:
CA215002 Immunochemistry
CA203XXX Biochemical Genetics
CA210XXX MICROBIAL, ALGAL, AND FUNGAL BIOCHEMISTRY
CA263XXX Pharmaceuticals
IDENTIFIERS: hepatitis C virus antigen polyprotein vaccine, HCV core NS3 NS4 NS5a protein vaccine
DESCRIPTORS:
Antibodies... Antigens... Buffers... Epitopes... Hepatitis C virus... Immunoassay... Molecular cloning... Polyproteins... Protein sequences...

Vaccines...
antigenic epitopes and mosaic polypeptides of hepatitis C virus proteins for diagnosis and treatment
Drug delivery systems...
carriers; antigenic epitopes and mosaic polypeptides of hepatitis C virus proteins for diagnosis and treatment
Medical goods...
containers; antigenic epitopes and mosaic polypeptides of hepatitis C virus proteins for diagnosis and treatment
Blood products...
contamination; antigenic epitopes and mosaic polypeptides of hepatitis C virus proteins for diagnosis and treatment
Reagents... Test kits...
diagnostic; antigenic epitopes and mosaic polypeptides of hepatitis C virus proteins for diagnosis and treatment
Antigens...
hepatitis C core; antigenic epitopes and mosaic polypeptides of hepatitis C virus proteins for diagnosis and treatment
Diagnosis...
immunodiagnosis; antigenic epitopes and mosaic polypeptides of hepatitis C virus proteins for diagnosis and treatment
Containers...
medical; antigenic epitopes and mosaic polypeptides of hepatitis C virus proteins for diagnosis and treatment
Antibodies...
monoclonal; antigenic epitopes and mosaic polypeptides of hepatitis C virus proteins for diagnosis and treatment
Proteins,specific or class...
NS3 (nonstructural, 3); antigenic epitopes and mosaic polypeptides of hepatitis C virus proteins for diagnosis and treatment
Proteins,specific or class...
NS4 (nonstructural, 4); antigenic epitopes and mosaic polypeptides of hepatitis C virus proteins for diagnosis and treatment
Proteins,specific or class...
NS5a; antigenic epitopes and mosaic polypeptides of hepatitis C virus proteins for diagnosis and treatment
CAS REGISTRY NUMBERS:
320645-80-5 320645-81-6 320645-82-7 320645-83-8 321154-49-8 amino acid sequence; antigenic epitopes and mosaic polypeptides of hepatitis C virus proteins for diagnosis and treatment

10/7/17 (Item 2 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

131321538 CA: 131(24)321538a PATENT
Immobilized antigen or antibody-containing device for immunodiagnosis
INVENTOR(AUTHOR): Chowdhury, Mohammed Afzal; Childs, Mary Ann; Bernstein, David; Lovchik, Janece; Trainor, William
LOCATION: USA
ASSIGNEE: Universal Healthwatch, Inc.
PATENT: PCT International ; WO 9956128 A1 DATE: 19991104
APPLICATION: WO 99US9331 (19990430) *US 69935 (19980430)
PAGES: 62 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: G01N-033/543A; G01N-033/52B; G01N-033/569B; G01N-033/571B; G01N-033/576B
DESIGNATED COUNTRIES: AE; AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; CA; CH;

CN; CU; CZ; DE; DK; EE; ES; FI; GB; GD; GE; HU; ID; IL; IN; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MD; MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; SL; TJ; TM; TR; TT; UA; UG; US; UZ; VN; YU; ZA; ZW; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH; GM; KE ; LS; MW; SD; SL; SZ; UG; ZW; AT; BE; CH; CY; DE; DK; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; GW; ML; MR; NE; SN; TD; TG

SECTION:

CA215002 Immunochemistry

CA209XXX Biochemical Methods

IDENTIFIERS: antigen epitope antibody app filter blood, immunodiagnosis HIV HCV syphilis blood analysis

DESCRIPTORS:

Immunoassay...
app.; immobilized antigen or antibody and device for immunodiagnosis of HIV infection, hepatitis C virus infection or syphilis

Test kits...
diagnostic; immobilized antigen or antibody and device for immunodiagnosis of HIV infection, hepatitis C virus infection or syphilis

Absorbents... Antibodies... Antigens... Blood... Envelope proteins...

Filters... Fusion proteins(chimeric proteins)...

Glycosaminoglycans,biological studies... Hepatitis C virus... Human immunodeficiency virus 1... Human immunodeficiency virus...

Peptides,biological studies... Protein sequences... Syphilis...
immobilized antigen or antibody and device for immunodiagnosis of HIV infection, hepatitis C virus infection or syphilis

Diagnosis...
immunodiagnosis; immobilized antigen or antibody and device for immunodiagnosis of HIV infection, hepatitis C virus infection or syphilis

Proteins,specific or class...
NS3 (nonstructural, 3), hepatitis C; immobilized antigen or antibody and device for immunodiagnosis of HIV infection, hepatitis C virus infection or syphilis

Proteins,specific or class...
NS4 (nonstructural, 4), hepatitis C; immobilized antigen or antibody and device for immunodiagnosis of HIV infection, hepatitis C virus infection or syphilis

Proteins,specific or class...
NS5 (nonstructural, 5), hepatitis C; immobilized antigen or antibody and device for immunodiagnosis of HIV infection, hepatitis C virus infection or syphilis

Animal virus...
proteins; immobilized antigen or antibody and device for immunodiagnosis of HIV infection, hepatitis C virus infection or syphilis

Proteins,general,biological studies...
viral; immobilized antigen or antibody and device for immunodiagnosis of HIV infection, hepatitis C virus infection or syphilis

Proteins,specific or class...
15,500 mol. wt.; immobilized antigen or antibody and device for immunodiagnosis of HIV infection, hepatitis C virus infection or syphilis

Proteins,specific or class...
17,000-mol.-wt.; immobilized antigen or antibody and device for immunodiagnosis of HIV infection, hepatitis C virus infection or

syphilis
Proteins,specific or class...
44,500 mol. wt.; immobilized antigen or antibody and device for immunodiagnosis of HIV infection, hepatitis C virus infection or syphilis
Proteins,specific or class...
47,000-mol.-wt.; immobilized antigen or antibody and device for immunodiagnosis of HIV infection, hepatitis C virus infection or syphilis
CAS REGISTRY NUMBERS:
242806-18-4 242806-27-5 immobilized antigen or antibody and device for immunodiagnosis of HIV infection, hepatitis C virus infection or syphilis

10/7/18 (Item 3 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

130037046 CA: 130(4)37046y JOURNAL
Construction of antigenized antibodies expressing an immunodominant epitope AA32-45 of the hepatitis C virus core protein
AUTHOR(S): Yu, Yong-Jun; Wu, Xiang-Fu
LOCATION: Shanghai Institute of Biochemistry, The Chinese Academy of Sciences, Shanghai, Peop. Rep. China, 200031
JOURNAL: Shengwu Huaxue Yu Shengwu Wuli Xuebao DATE: 1998 VOLUME: 30
NUMBER: 2 PAGES: 191-197 CODEN: SHWPAU ISSN: 0582-9879 LANGUAGE: Chinese PUBLISHER: Shanghai Kexue Jishu Chubanshe
SECTION:
CA215003 Immunochemistry
IDENTIFIERS: hepatitis C virus core protein epitope antigenized antibody
DESCRIPTORS:
Epitopes... Hepatitis C core antigen...
construction of antigenized antibodies that contain an immunodominant epitope from the hepatitis C virus core protein
Antibodies...
fusion product with epitope; construction of antigenized antibodies that contain an immunodominant epitope from the hepatitis C virus core protein
CAS REGISTRY NUMBERS:
216580-59-5DP fusion product with antibodies, construction of antigenized antibodies that contain an immunodominant epitope from the hepatitis C virus core protein

10/7/19 (Item 4 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

128045099 CA: 128(5)45099s PATENT
Multiple epitope fusion protein and epitopes of hepatitis C virus and assay for antibodies
INVENTOR(AUTHOR): Valenzuela, Pablo D. T.; Chien, David Ying
LOCATION: USA
ASSIGNEE: Chiron Corporation
PATENT: PCT International ; WO 9744469 A2 DATE: 19971127
APPLICATION: WO 97US8950 (19970523) *US 653226 (19960524)

PAGES: 55 pp. CODEN: PIXXD2 LANGUAGE: English CLASS: C12N-015/62A; C12N-015/51B; C12N-015/48B; C07K-014/18B; G01N-033/50B; C12Q-001/68B
DESIGNATED COUNTRIES: AL; AM; AT; AU; AZ; BA; BB; BG; BR; BY; CA; CH; CN; CU; CZ; DE; DK; EE; ES; FI; GB; GE; HU; IL; IS; JP; KE; KG; KP; KR; KZ; LC; LK; LR; LS; LT; LU; LV; MD; MG; MK; MN; MW; MX; NO; NZ; PL; PT; RO; RU; SD; SE; SG; SI; SK; TJ; TM; TR; TT; UA; UG; UZ; VN; AM; AZ; BY; KG; KZ; MD; RU; TJ; TM DESIGNATED REGIONAL: GH; KE; LS; MW; SD; SZ; UG; AT; BE; CH; DE; DK ; ES; FI; FR; GB; GR; IE; IT; LU; MC; NL; PT; SE; BF; BJ; CF; CG; CI; CM; GA; GN; ML; MR; NE; SN; TD; TG
SECTION:
CA206003 General Biochemistry
CA210XXX MICROBIAL, ALGAL, AND FUNGAL BIOCHEMISTRY
CA215XXX Immunochemistry
IDENTIFIERS: fusion protein epitope antigen virus animal, hepatitis C virus HIV epitope antigen
DESCRIPTORS:
Proteins(specific proteins and subclasses)...
c100, of hepatitis C virus; multiple epitope fusion protein and epitopes of hepatitis C virus and assay for antibodies
Proteins(specific proteins and subclasses)...
c100-3, of hepatitis C virus; multiple epitope fusion protein and epitopes of hepatitis C virus and assay for antibodies
Proteins(specific proteins and subclasses)...
c22, of hepatitis C virus; multiple epitope fusion protein and epitopes of hepatitis C virus and assay for antibodies
Proteins(specific proteins and subclasses)...
C25, of hepatitis C virus; multiple epitope fusion protein and epitopes of hepatitis C virus and assay for antibodies
Proteins(specific proteins and subclasses)...
c33c, of hepatitis C virus; multiple epitope fusion protein and epitopes of hepatitis C virus and assay for antibodies
Human immunodeficiency virus...
epitopes of; multiple epitope fusion protein and epitopes of hepatitis C virus and assay for antibodies
Proteins(specific proteins and subclasses)...
E1, of hepatitis C virus; multiple epitope fusion protein and epitopes of hepatitis C virus and assay for antibodies
Proteins(specific proteins and subclasses)...
E2, of hepatitis C virus; multiple epitope fusion protein and epitopes of hepatitis C virus and assay for antibodies
Animal virus... Antibodies... Antigens... Epitopes... Fusion proteins(chimeric proteins)... Hepatitis C virus...
multiple epitope fusion protein and epitopes of hepatitis C virus and assay for antibodies
Nonstructural proteins...
NS3, of hepatitis C virus; multiple epitope fusion protein and epitopes of hepatitis C virus and assay for antibodies
Nonstructural proteins...
NS4, of hepatitis C virus; multiple epitope fusion protein and epitopes of hepatitis C virus and assay for antibodies
Nonstructural proteins...
NS5 (nonstructural, 5), of hepatitis C virus; multiple epitope fusion protein and epitopes of hepatitis C virus and assay for antibodies
Core proteins... Polyproteins...
of hepatitis C virus; multiple epitope fusion protein and epitopes of hepatitis C virus and assay for antibodies

10/7/20 (Item 5 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

125031929 CA: 125(3)31929p PATENT
Preparation of epitope chimeric antigen peptide for grouping of hepatitis C virus
INVENTOR(AUTHOR): Yagi, Shintaro; Kashiwaguma, Tomiko; Kobayashi, Tomoko; Chiba, Yukie; Hasegawa, Akira
LOCATION: Japan,
ASSIGNEE: Tonen Corp
PATENT: Japan Kokai Tokkyo Koho ; JP 9673497 A2 ; JP 0873497 DATE: 960319
APPLICATION: JP 94232073 (940831)
PAGES: 15 pp. CODEN: JKXXAF LANGUAGE: Japanese CLASS: C07K-014/18A; C07K-007/08B; C07K-019/00B; C12N-001/21B; C12N-015/09B; C12P-021/02B; G01N-033/53B; G01N-033/569B; G01N-033/576B; C12N-001/21J; C12R-001/19J; C12P-021/02K; C12R-001/19K
SECTION:
CA215002 Immunochemistry
CA210XXX MICROBIAL, ALGAL, AND FUNGAL BIOCHEMISTRY
CA214XXX Mammalian Pathological Biochemistry
IDENTIFIERS: epitope chimeric antigen hepatitis C virus, core NS4 antigen hepatitis C virus
DESCRIPTORS:
Glycoproteins,specific or class, NS4 (nonstructural, 4)...
epitope; prepn. of epitope chimeric antigen peptide for distinguishing hepatitis C virus group I and II
Virus,animal, hepatitis C...
group I and II; prepn. of epitope chimeric antigen peptide for distinguishing hepatitis C virus group I and II
Deoxyribonucleic acids,complementary... Gene,microbial... Ribonucleic acids ...
hepatitis C virus antigen; prepn. of epitope chimeric antigen peptide for distinguishing hepatitis C virus group I and II
Antigens,hepatitis C core... Blood analysis... Protein sequences...
prepn. of epitope chimeric antigen peptide for distinguishing hepatitis C virus group I and II
Antibodies...
to hepatitis C virus antigen; prepn. of epitope chimeric antigen peptide for distinguishing hepatitis C virus group I and II
CAS REGISTRY NUMBERS:
177730-80-2 177730-82-4 amino acid sequence; prepn. of epitope chimeric antigen peptide for distinguishing hepatitis C virus group I and II
177730-79-9 177730-81-3 nucleotide sequence; prepn. of epitope chimeric antigen peptide for distinguishing hepatitis C virus group I and II
155569-40-7P 177723-49-8P 177723-50-1P 177723-51-2P 177723-52-3P 177723-53-4P 177723-54-5P 177723-55-6P prepn. of epitope chimeric antigen peptide for distinguishing hepatitis C virus group I and II

10/7/21 (Item 6 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

122263125 CA: 122(21)263125q JOURNAL

Expression of chimeric recombinant antigens bearing capsid and NS3 epitopes of hepatitis C virus
AUTHOR(S): Wang, Hailin; Jin, Dongyan; Zhou, Yuan; Yan, Ziying; Hou, Yunde
LOCATION: Institute Virology, CAPM, Beijing, Peop. Rep. China, 100052
JOURNAL: Bingdu Xuebao DATE: 1994 VOLUME: 10 NUMBER: 4 PAGES: 311-15
CODEN: BIXUEA ISSN: 1000-8721 LANGUAGE: Chinese
SECTION:
CA215002 Immunochemistry
IDENTIFIERS: hepatitis virus NS3 protein epitope antigen, capsid protein epitope hepatitis virus antigen
DESCRIPTORS:
Antigens... Proteins,specific or class, capsid... Proteins,specific or class, NS3... Virus,animal, hepatitis C...
expression of chimeric recombinant antigens bearing capsid and NS3 epitopes of hepatitis C virus

10/7/22 (Item 7 from file: 399)
DIALOG(R)File 399:CA SEARCH(R)

119268447 CA: 119(25)268447u JOURNAL
Chimeric hepatitis B virus core particles with parts or copies of the hepatitis C virus core protein
AUTHOR(S): Yoshikawa, Akira; Tanaka, Takeshi; Hoshi, Yuji; Kato, Naomi; Tachibana, Katsumi; Iizuka, Hisao; Machida, Atsuhiko; Okamoto, Hiroaki; Yamasaki, Makari; et al.
LOCATION: Jpn. Red Cross Saitama Blood Cent., Japan, 338
JOURNAL: J. Virol. DATE: 1993 VOLUME: 67 NUMBER: 10 PAGES: 6064-70
CODEN: JOVIAM ISSN: 0022-538X LANGUAGE: English
SECTION:
CA215002 Immunochemistry
IDENTIFIERS: hepatitis virus particle core antigen epitope
DESCRIPTORS:
Virus,animal, hepatitis B...
core particles of, core antigen of hepatitis C virus expressed by, antigenicity of, vaccine in relation to
Virus,animal, hepatitis C...
core protein of, hepatitis B virus core particles expressing, antigenicity of, vaccine in relation to
Antigens,hepatitis C core...
fusion products, with hepatitis B virus core protein, antigenicity of, vaccine in relation to
Antigens,hepatitis B core...
fusion products, with hepatitis C virus core protein, antigenicity of, vaccine in relation to
?logoff hold